Knight Piésold

March 22, 2004

Ms. Cindy Bosco City and County of Denver 201 West Colfax Avenue Department 1009 Denver, Colorado 80202

Dear Ms. Bosco:

SDMS Document ID

Knight Piésok.

1050 Seventeenth Street, Suite 450 Denver, Colorado 80265-2011 U.S.A.

Telephone (303) 629-8788 Telefax (303) 629-8789

YOUR REFERENCE

DV1020012401

OUR REFERENCE

C&C OF DENVER RESULTS

PUBLIC DOCUMENT

Thank you for allowing the EPA to collect samples from your property to investigate whether there is any significant environmental contamination remaining from the ARGO Smelter that existed near the I-25 and I-70 interchange prior to 1900. This letter provides you with a summary of the overall site-wide results and the specific results of the sampling conducted at your property in December 2003.

Summary of Site-Wide Findings

The EPA collected soil samples from borings at 36 different locations across the site. These locations are shown on Figure 1. Each boring went from the surface down to about 10-25 feet in depth. Each boring was divided into several depth intervals (e.g., 0-2 feet, 2-6 feet, etc.) before analysis for metals often associated with smelter sites (arsenic, cadmium, lead, copper, zinc, etc.). Of the 122 total soil samples analyzed, all but one was found to be below a level of concern for workers at the site. One sample (from a depth of 10-12 feet) had an elevated level of arsenic that would be of potential concern if a worker were exposed to it for many years. Because the sample is buried, no one is currently exposed, and the EPA considers it rather unlikely that anyone would be exposed in the future. Also, the spatial extent of the contamination appears to be limited. Thus, the EPA has concluded that there is no significant reason to be concerned over contamination in the soil.

The EPA also attempted to investigate whether groundwater at the site is contaminated. However, most of the borings (34 out of 36) drilled at the site did not encounter any water. At the two locations where near-surface groundwater was present, samples of the water were found to contain elevated levels of several metals at concentrations high enough to make the water unsafe to drink. However, this water is not currently used for drinking, and the EPA believes that it is not likely to be used in the future as a source of drinking water. Thus, the EPA believes that there is no reason at the present time for health concerns due to groundwater contamination.

Summary of the Results from Your Property

The results of the sampling from your property at one location are provided in the attached sheets. In brief, these results indicate that soil beneath your site is not contaminated at a level of



2

Ms. Cindy Bosco City and County of Denver March 22, 2004

concern, and no groundwater was located on your property. Thus, the EPA does not believe that there is a reason for concern at your property.

Next Steps at the Site

Because metals in the water samples collected at the site were elevated, the EPA and the State believe it is important to collect additional data to determine if contaminated water might be migrating off the site to a location where humans could be exposed. For this reason, the EPA will be placing some temporary wells to monitor water (if any water is present) at the eastern edge of the site near I-25 and I-70. This activity will occur in early spring with the duration of sampling dependent on the results of the sampling and analysis.

If you have any questions regarding the sampling results for your property or about the EPA's plans to investigate further, please do not hesitate to contact me at 303-629-8788. Mr. Victor Ketellapper, EPA Project Manager, can be reached at 303-312-6578.

Sincerely,

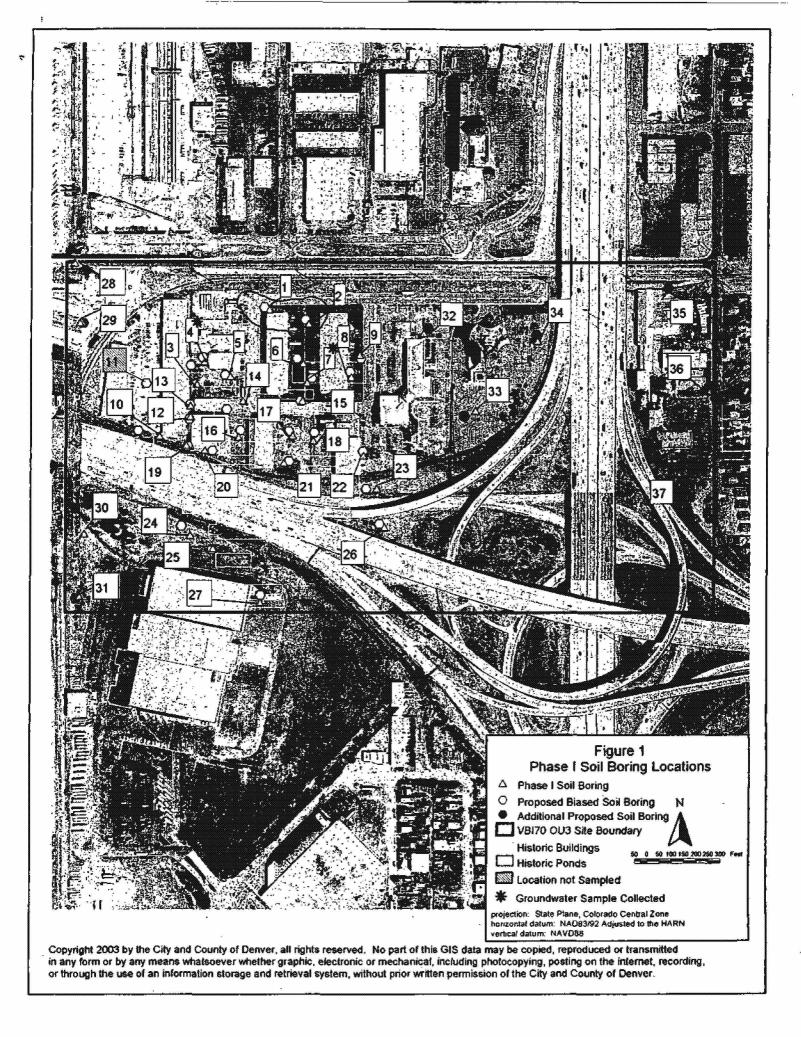
Knight Piesold and Co

Paul D. Bergstrom

Project Manager

PDB:lkr Attachments

cc: Mr. Victor Ketellapper, EPA



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Project		THE RESERVE THE PROPERTY OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COL	& I-70	***************************************		Project No.	03-1-411	Bering No: 3	7	Sheet 1 of 1
	Location: SEE SITE PLAN Start Date: 12/18/03 Completion Date						e;	12/18/03		
						NORTHING		EASTING		
Logged	3 By:	ÇA	J		····	Water Depth:	Not Encountered	1 1 /09846.85		3143935.42
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10-		-0037C			5Y	R 4/1 FROM 6'	TO 11', UGHT	OLIVE BROWN 5Y		SAMPLE AT 10'
_					CS 5/	6 BELOW 11', STI TO 10'.	IF, WHITE MINE	RALIZATION FROM		weetern make the EMP
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Client Sample ID: 01-VBOU3-SB-0037-A

TOTAL Metals

Lot-Sample #...: D3L190464-006 Matrix....: SOLID

Date Sampled...: 12/18/03 15:15 Date Received..: 12/19/03 16:35

* Moisture....: 9.7

na na secuen	RESULT	REPORTING	UNITS	Monte	n.	PREPARATION-	WORK ORDER #
PARAMETER	RESULI	LIMIT	ONTIP	METHO		ANALYSIS DATE	ONDER #
Prep Batch #	.: 3356303						
Mercury	ND	0.033	mg/kg	SW846	7471A	12/31/03	F659K1AD
		Dilution Fact	or: 1				
Prep Batch #							
Silver	ND	1.0	mg/kg	SW846	6010B	12/30-01/04/04	F659K1AF
		Dilution Fact	or: 1				
Aluminum ·	17000	10	mg/kg	SW846	6010B	12/30-01/05/04	F659Klag
2		Dilution Facto	or: 1				
Arsenic	6.1	1.0	/-	Arab a C	60107	12/30-01/04/04	DCCAT131
al benie	0.1	1.0 Dilution Pacto	mg/kg er: 1	2#840	6010B	12/30-01/04/04	rodyklan
Barium	160	1.0	mg/kg	SW846	6010B	12/30-01/04/04	P659KLAJ
		Dilution Facto	or: 1				
Beryllium	0.90	0.50	mq/kq	SW846	6010B	12/30-01/04/04	P659Klak
•		Dilution Facto	or: 1				
Calcium	4400	20	/1	nun a c	6010B	12/30-01/05/04	********
Calcium	2400	Dilution Facto	mg/kg r: 1	58840	OULUB	12/30-01/05/04	POSELAL
Cadmium	2.7	0.50	mg/kg	SW846	6010B	12/30-01/04/04	P659Klam
		Dilution Facto	r: 1				
Cobalt	6.8	1.0	mg/kg	SW846	6010B	12/30-01/04/04	F659Klan
		Dilution Facto	make the				
Chromium	13	1.0	ma /2-a	CTMO 4 E	6010B	22/20 02/04/04	D(Cowing
CILOILLIII	# .3	Dilution Facto	mg/kg r: 1	SMO40	POTUB	12/30-01/04/04	FOOTRIAL
					*		
Copper	23	2.0	mg/kg	SW846	6010B	12/30-01/04/04	F659Klaq
		Dilution Facto	r: 1				
Iron	18000	10	ng/kg	SW846	6010B	12/30-01/05/04	P659Klar
		Dilution Pacto				P. General Ed. Co.	
Potassium	2600	300	ma/ka	A300 0 0	CATAR	10/20 0-/0-/	W/FAW4 =
* ~~uoo.uu	2000	Dilution Facto	mg/kg r:1	DMR40	6010B	12/30-01/05/04	PODYKIAT

(Continued on next page)

FORM 1
Equivalent

Client Sample ID: 01-VBOU3-SB-0037-A

TOTAL Metals

Lot-Sample #...: D3L190464-006

Matrix..... SOLID

	W.W. /1717 608	REPORTING		n a service o ch	_	PREPARATION-	WORK
PARAMETER	RESULT	LIMIT	UNITS	METHO		ANALYSIS DATE	Annual Control of the Party of
Magnesium	3344	20	mg/kg	SW846	6010B	12/30-01/05/04	P659KIAU
		Dilution Facto	or: 1				
Kanganese	410	1.0	mg/kg	SW846	6010B	12/30-01/05/04	P659Klav
		Dilution Facto	or: 1				
errel k riber							
Sodium	ND	500	mg/kg	SW846	6010B	12/30-01/05/04	F659K1AW
		Dilution Facto	r: 1				
Nickel	9.2	4.0	mq/kg	SWAAG	6010B	12/30-01/04/04	P659K1AK
		Dilution Facto		DNOTO	44242	22,70 02,00,00	1000,000
Lead	30	0.80	mg/kg	SW846	6010B	12/30-01/04/04	P659Klao
		Dilution Facto	r: 1				
3-64	NTO.		()	#### #################################	/ 4		TO CO AVEC DE
Antimony	ND	1.0 Dilution Facto	mg/kg	SW846	6010B	12/30-01/04/04	F659KIAI
		NITUCION FACCO	r: ı				
Selenium	ND	1.3	mg/kg	SW846	6010B	12/30-01/04/04	F659K1A2
		Dilution Facto			*****	,	
Thallium	ND	1.2	mg/kg	SW846	60108	12/30-01/04/04	P659K1A3
		Dilution Facto	r: 1				
Vanadium	31	2.0	()	****** # *	CALAR		W.C.A.W. > -
vanadium		2.0	mg/kg	5W846	6010B	12/30-01/04/04	F659KLAA
	;	Dilution Facto	r: 1				
Zinc	130	2.0	mg/kg	SW846	6010B	12/30-01/05/04	P659K1AC
		Dilution Facto			 		



Client Sample ID: 01-VBOU3-SB-0037-B

TOTAL Metals

Lot-Sample #...: D3L190464-007 Matrix....: SOLID

Date Sampled...: 12/18/03 15:20 Date Received..: 12/19/03 16:35

* Moisture....: 16

							*
		REPORTING	•			PREPARATION-	WORK
PARAMETER	RESULT	LIMIT	UNITS	METHO)D	ANALYSIS DATE	ORDER #
				3,300			
Prep Batch #							
Mercury	0.10	0.033	mg/kg	SW846	7471A	12/31/03	P659L1AD
		Dilution Fact	or: 1				
Prep Batch #		и					
Silver	ND	1.0	mg/kg	SW846	6010B	12/30-01/04/04	F659L1AF
30		Dilution Fact	or: 1				
Aluminum	23000	10	mg/kg	SW846	6010B	12/30-01/05/04	P659L1AG
		Dilution Fact	or: 1				
							berassass
Arsenic	2.6	1.0 Dilution Factor	mg/kg	SW846	6010B	12/30-01/04/04	Kesapitah
		Diffecton Facto)I; I			2	
Barium	56	1.0	mg/kg	SW846	6010B	12/30-01/04/04	F659L1AJ
		Dilution Facto	or: 1	*			
Beryllium	0.86	0.50	mq/kq	OMO A C	6010B	12/30-01/04/04	DCCOT 1 NV
Del y Lilian	0.00	Dilution Facto		DMOSO	OOTOD	12/30-01/04/02	EGSSALAK
Calcium	9800	20	mg/kg	SW846	6010B	12/30-01/05/04	P659LLAL
ř.		Dilution Facto	r: 1				
Cadmium	0.59	0.50	mg/kg	SWR46	6010B	12/30-01/04/04	PASQLIAM
	,	Dilution Facto		211020	00202	22,00 02,01,01	
			al-				
Cobalt	6.0	1.0	mg/kg	SW846	6010B	12/30-01/04/04	P659Llan
ψ.		Dilution Facto	er: 1				
Chronium	18	1.0	mg/kg	SW846	6010B	12/30-01/04/04	F659L1AP
		Dilution Facto	r: 1			200	
Corroav	21		/\	mater a c	<i></i>	20/20 02/04/04	*******
Copper	21	2.0 Dilution Facto	mg/kg	OPSMG	6010B	12/30-01/04/04	F659LIAQ
		Dilicion Pacto	1. 1				¥
Iron	18000	10	mg/kg	SW846	6010B	12/30-01/05/04	F659Llar
		Dilution Facto	r: 1		*		
Potassium	2200	200	mm/le=	Maria a -	COLOR		
EATGRATON	22UU	300 Dilution Facto	mg/kg	S#846	6010B	12/30-01/05/04	F659L1AT
		PATERION PACED				9	

(Continued on next page)

FORM 1
Equivalent

Client Sample ID: 01-VBOU3-SB-0037-B

TOTAL Metals

Lot-Sample #...: D3L190464-007 Matrix....: SOLID

		REPORTING	3			PREPARATION-	WORK
PARAMETER	RESULT	LIMIT	UNITS	METHO:	D	ANALYSIS DATE	ORDER #
Magnesium	4400	20	mg/kg	SW846	.6010B	12/30-01/05/04	P659L1AU
		Dilution Fact	or: 1				
				•			
Manganese	150	1.0	mg/kg	SW846	6010B	12/30-01/05/04	P659L1AV
		Dilution Fact	or: 1				
Sodium	960	500	mg/kg	SMRAG	6010B	12/30-01/05/04	P659TaN
our or turner course		Dilution Fact		50025	00200	,,,	
Nickel	16	4.0	mg/kg	SW846	6010B	12/30-01/04/04	P659LLAX
		Dilution Fact	or: 1				
Lead	16	0.80	mg/kg	SW846	6010B	12/30-01/04/04	P659L1A0
		Dilution Fact	or: 1	5.			
Antimony	ND	1.0	mg/kg	SW846	6010B	12/30-01/04/04	F659L1A1
		Dilution Fact				,,,	
						,	
Selenium	ND	1.3	mg/kg	SW846	6010B	12/30-01/04/04	F659L1A2
		Dilution Facto	or: 1				
Thallium	ND	1.2	mg/kg	SW846	6010B	12/30-01/04/04	P659L1A3
		Dilution Facto	or: 1				
Vanadium	34	2.0	ng/kg	QMQAC	6010B	12/30-01/04/04	PCCQLIAN
y annual control		Dilution Facto		DINGSO	OOLOD	12/30-01/02/02	FOJJERN
Zinc	100	2.0	mg/kg	SW846	6010B	12/30-01/05/04	P659L1AC
		Dilution Facto	or: 1				



Client Sample ID: 01-VBOU3-SB-0037-C

TOTAL Metals

Lot-Sample #...: D3L190464-008 Matrix....: SOLID

Date Sampled...: 12/18/03 15:25 Date Received..: 12/19/03 16:35

% Moisture....: 16

	REPORTING						WORK
PARAMETER	RESULT	LIMIT	UNITS	<u>METHO</u>	D	ANALYSIS DATE	ORDER #
There was a little	- 22562303						
Prep Batch # Mercury	.: 33563U3 ND	0.033	mg/kg	SW846	7471A	12/31/03	F659M1AD
,		Dilution Facto				,,	
Prep Batch # Silver	.: 3357647 NTD	1.0	mg/kg	QWD A E	6010B	12/30-01/04/04	F659M1AF
STIACT	ND	Dilution Facto		SHOND	OULUB	12/30 01/01/01	LOJJAILAL
Aluminum	22000	10	mg/kg	SW846	6010B	12/30-01/05/04	P659Mlag
		Dilution Pacto	or: 1				
Arsenic	2.9	1.0	mg/kg	CWOAC	6010B	12/30-01/04/04	PECOMIAN
vi ochi c	4.3	Dilution Facto		anoso	OULUB	12/30 01/03/03	E O J J POLIZIE
Barium	19	1.0	mg/kg	SW846	6010B	12/30-01/04/04	F659Nlaj
		Dilution Facto	or: 1				
Beryllium	0.53	0.50	mg/kg	CHOAC	6010B	12/30-01/04/04	DECOMINE
DCI Y 1.1.1 (um	0.33	Dilution Facto	-:	340.50	00100	12/30-01/08/02	rossemm
			-				
Calcium	14000	20	mg/kg	SW846	6010B	12/30-01/05/04	P659Mlal
		Dilution Facto	or: 1				
Cadmium	ND	0.50	mg/kg	CM546	6010B	12/30-01/04/04	PESON1 AM
And And Andreas and and an		Dilution Facto	-	011030	00100	10,00 01,01,01	10371,2181
Cobalt	4.6	1.0	mg/kg	SW846	6010B	12/30-01/04/04	P659Mlan
		Dilution Facto	r: 1				
Chromium	10	1.0	mg/kg	SWOAS	6010B	12/30-01/04/04	P659MIAP
		Dilution Facto	E-0.			,,,,	
				ž.			
Copper	4.3	2.0	mg/kg	SW046	60108	12/30-01/04/04	F659MlAQ
		Dilution Facto	r: 1				
Iron	15000	10	mq/kq	SWRAK	6010B	12/30-01/05/04	PESOMIAD
		Dilution Facto		w110 20			4 A M. " 44 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
Potassium	910	300	mg/kg	8W846	6010B	12/30-01/05/04	P659MLAT
		Dilution Facto	r: 1				

(Continued on next page)

FORM 1
Equivalent

STL Denver

Client Sample ID: 01-VBOU3-SB-0037-C

TOTAL Metals

Lot-Sample #...: D3L190464-008

Matrix....: SOLID

PARAMETER	RESULT	REPORTING	; Units	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Magnesium	2600	20	mg/kg	SW846 6010B	12/30-01/05/04	P659MLAU
		Dilution Fact	or: 1			
Manganese	160	1.0	mg/kg	SW846 6010B	12/30-01/05/04	F659Mlav
		Dilution Fact	or: 1			
Sodium	720	500	mg/kg	SW846 6010B	12/30-01/05/04	F659MLAW
		Dilution Fact	or: 1			
Nickel	7.0	4.0	mg/kg	SN846 6010B	12/30-01/04/04	P659MLAX
		Dilution Fact	or: 1			
Lead	12	0.80	mg/kg	SW846 6010B	12/30-01/04/04	F659M1A0
	ī	Dilution Fact	or: 1			
Antimony	ND	1.0	mg/kg	SW846 6010B	12/30-01/04/04	F659M1A1
		Dilution Fact	or: 1			
Selenium	מא	1.3	mg/kg	SW846 6010B	12/30-01/04/04	F659M1A2 ,
		Dilution Fact	or: 1			
Thallium	ND	1.2	mg/kg	SW846 6010B	12/30-01/04/04	F659M1A3
		Dilution Fact	or: 1.			
Vanadium	24	2.0	mg/kg	SW846 6010B	12/30-01/04/04	F659MLAA
		Dilution Facto	or: 1			
Zinc	41	2.0	mg/kg	SW846 6010B	12/30-01/05/04	P659M1AC
		Dilution Facto	or: 1			

